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SERVICE-DOMINANT NETWORKS – AN EVOLUTION FROM THE SERVICE-DOMINANT LOGIC PERSPECTIVE

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Abstract

Purpose – This article seeks to advance a novel service network perspective, based on the service-dominant logic, designated as service-dominant networks (SDN).
Design/methodology/approach – Service-dominant logic components serve to build and describe SDN. Specifically, resources and actors are key components, combined with activities and the process by which they become resources. A case study details the features of SDNs.
Findings – Service-dominant networks exhibit unique, previously unaddressed features. According to the service-dominant logic, components only become resources when they are integrated; thus, they disappear as resources after their integration, which means SDNs are fugacious: they (be-)come and go. In addition, SDNs comprise one or more main intended activities that explain their existence, though these intended activities do not necessarily initiate any particular SDN. Rather, other critical incidents can initiate SDNs.
Research limitations/implications – The features of SDNs proposed in this article have not been a focus of prior research. In particular, the dynamics and fugaciousness of SDNs are challenges for research and management.
Originality/value – This article offers the first proposal of a novel, service-dominant network perspective. In a very general and abstract form, it identifies the features of SDNs

Keywords

Actors, Service-dominant networks, Operand resources, Operant resources, Resource integration, Intended activities, Fugaciousness, Resources, Logic

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Introduction

Networks certainly are not new to marketing or services. Vast literature addresses networks, including arguments for adopting a network paradigm in marketing in particular (Achrol, 1997; Achrol and Kotler, 1999). For example, Gummesson (2007) cites the importance of networks and network theory in services marketing, using the notion of "many-to-many" interactions (Gummesson, 2007, 2008, 2010). A common definition recognizes that "networks describe a collection of actors (persons, departments, firms, countries, and so on) and their structural connections (familial, social, communicative, financial, strategic, business alliances, and so on)" (Iacobucci, 1996, p. xiii). Thus, actors connected in networks tend to be differentiated into separate domains, such as business-to-business (B2B) settings, in which context the actors-resources-activities model (ARA; Hakansson and Johanson, 1992) focuses on cognition (Welch and Wilkinson, 2002) and commitment (Lenney and Easton, 2009). Yet the ARA model does not extend to other contexts, such as business-to-consumer (B2C) or consumer-to-consumer (C2C) networks. Similarly, studies of resource integration tend to be limited to a single perspective, namely, the user's (Baraldi and Strömsten, 2006; Harrison and Waluszewski, 2008; Ingemansson and Waluszewski, 2008). To transcend such distinctions, the service-dominant logic refers to actors, instead of suppliers and producers or customers and users (Vargo and Lusch, 2011), and proposes that actors integrate resources to enable services.

Actors can also become resources. In networks, actors are also inter-actors, who might be active or passive. For example, a hairdresser plays an active part in a haircut interaction, and the customer is more passive, but both actors must interact to create the service. Beyond such a dyadic setting, during surgical procedures, various healthcare professionals (e.g. doctors, nurses, anesthesiologists) and the patient together form a network in which they each adopt very different activity levels. On a more abstract level, the actor's roles thus are resources (Akaka and Chandler, 2011), and their networks similarly can be understood as resources in their own right (Hakansson and Snehota, 1995).

To clarify understanding of actors as carriers of operant and/or operand resources, this article proposes that in a service-dominant network (SDN), the initiators are not necessarily actors. My proposal reflects Lusch *et al.'s* (2010) broad perspective on "the phase transition of markets and organizations", for which they use the term "service-dominant network", though without defining it clearly:

> If we were to sum up the market and organizational phase transition in a single phrase, we would characterize it as a move from individuals and resources 'being separate' to 'being together'. It is a move toward a collaborative, service-dominant network (p. 72).

The current article proposes a description and conceptualization of SDNs, which are characterized by individuals (actors) and resources "being together".

Furthermore, I argue that the service-dominant logic, by distinguishing between operant and operand resources, integrates the perspectives of both actors as actors and actors as resources. Accordingly, the dynamics of an SDN unfold when resources (actors and non-actors) combine to enable the service. Accordingly, resources are not simply in existence but rather must come into being, which allows the SDN to unfold. That is, the SDN is fugacious (it comes and goes), which has fundamental consequences for research and management.

In the next section, I review operant and operand resources and actors, as conceptualized by the service-dominant logic, to transcend any divide among them. Next, I conceptualize SDN as a resource-integrating phenomenon that performs one or more intended activities and detail an exemplary case study. After outlining the properties of SDN, I offer some key implications for research and management.

Components of service-dominant networks

Resources and actors

According to the service-dominant logic's fundamental premis 9 "all social and economic actors are resource integrators" (Vargo and Lusch, 2008, p. 7), of both operant and operand resources. Operand resources (from the Latin *operandum* = something to be worked on) undergo some act or work (Constantin and Lusch, 1994; Löbler, 2011a; Vargo and Lusch, 2004). They are not necessarily physical matter but rather can be any item on or with which an act or work can be executed. The operant resource instead does the act or work. Thus, operant resources include skills and knowledge (Vargo and Lusch, 2008):

> [. . .] usually cultural resources such as knowledge, skills technology or concepts for the use of people, money, machines and materials; or skills and concepts related to an institution such as a wholesaler, and information (Constantin and Lusch, 1994, p. 143).

Any act demands some kind of skill or knowledge, so an operant resource is inherent to action, and action further requires some operand resources on which to act, even if simply the air involved in the act of breathing. As Constantin and Lusch (1994, p. 143) explain, operand resources:

> [. . .] are usually physical resources such as people,money, machines andmaterials, or institutions such as wholesalers who distribute products [. . .] As operand resources, people perform operations on machines that perform operations on materials in order to produce a product.

Whenever people act, they use operant resources along with operand resources. In so doing, they integrate resources.

The pure process of resource integration might be carried out by a single person, several people, or many people. Depending on an actor's level of activity, she can be more active or more passive and thus more representative of an operant resource (playing an active part) or an operand resource (playing a more passive part). Understood as an operant or operand resource, the actor becomes conceptually integrated into the notion of resources. Thus, there is no need to distinguish between actors and resources, because actors are resources:

P1. Actors can be operant or operand resources, or both.

Intended activities

The distinction between operant and operand resources is not the same as that between an actor and a resource, because an actor can be either an operant or an operand resource. Furthermore, operant resources are not necessarily humans (Constantin and Lusch, 1994). If a early morning sunbeam awakens a person sleeping, the sunbeam is an operant resource (it acts on the sleeper), and the person is the operand resource. If an alarm clock serves the same purpose, it is the operant resource, and the sleeper continues to serve as the operand resource. In the former case, the sleeper lacks control over the operant resource (though he or she could avoid it by closing the curtains); in the latter case, the sleeper completely controls and enables the alarm clock to become an operant resource. All devices that work for people represent applications of skills and knowledge, and through their usage, they perform or execute work originally done by humans. By switching on devices, people activate the skills and knowledge embedded in these devices to perform or execute a particular, intended activity.

In this context, "an activity occurs when one or several actors combine, develop, exchange, or create resources by utilizing other resources" (Hakansson and Johanson, 1992, p. 28). From the ARA perspective, these "activities can be of any kind and take place at any level from the individual to the organizational" (Lenney and Easton, 2009, p. 553). Various kinds of technologies, in addition to devices, can substitute for, support, or extend human intended activities. Calculators substitute for human calculations; word processing systems support

writing; an airplane extends the range of possible activities that humans can conduct. These technologies, metaphorically speaking, are "frozen" applications of skills and knowledge that become "unfrozen" only through usage. That is, users reactivate frozen activities. The activities executed by the integration of operant and operand recourses are what people seek, in that the integration supports pleasant activities, substitutes for boring activities, and enables activities that humans cannot carry out on their own. In the customer-dominant logic (Heinonen *et al.*, 2010, p. 534), "the customer's perspective does not only comprise the producer's service but also the customer's other activities and life as a whole", such that activities can take a wide range of meanings, as discussed subsequently. Although such activities are an important phenomenon for understanding an SDN, I dismiss the distinction between providers and customers and adopt the broader concept of actors.

An actor can be involved in resource integration at different levels of activation: some are very active (assembling IKEA furniture, writing with a word processing system), while some are very passive (watching television, relaxing on a deck chair). The activities also can range from self-maintenance to work to play to recreation. For all of these examples, the term "intended activities" fits. That is, this term denotes that activities are not accidental or unintended but deliberate. Intended activities, compared with unintended ones, have meaning for the actors who perform or execute them or want them performed or executed. I use the term "activities" instead of "actions", because actions imply a high level of activation rather than activities such as relaxing, de-stressing, and so on. Furthermore, I prefer "activities" to a term such as "occupations", because occupations are often associated with work rather than play or recreation. Every resource integration process is oriented toward or rationalized by one or several intended activities: this is the very purpose of an SDN:

P2. Resources are important because they enable intended activities.

Intended activities support pleasant/good activities (watching television, playing football, writing an article), substitute for boring activities (cleaning dishes), or enable activities humans cannot do on their own (flying).

Resources become and cease to be resources

Service cannot be separated from the resource-integrating activities performed by an actor – that is, by an operant resource (Berghman *et al.*, 2006; Golfetto and Gibbert, 2006; Ngo and O'Cass, 2009; Vargo and Lusch, 2004, 2008, 2011). Resource integration is an ongoing process, "a series of activities performed" by an actor (Payne *et al.*, 2008, p. 86), that goes hand-in-hand with service. However:

> Resources are highly dynamic functional concepts; "they are not, they become" [emphasis added], they evolve out of the triune interaction of nature, man, and culture, in which nature sets outer limits, but man and culture are largely responsible for the portion of physical totality that is made available for human use (Zimmermann, 1951, pp. 814-815; Vargo and Lusch, 2004, 2011).

Whereas Zimmermann refers to "physical totality", Vargo *et al.* (2010, p. 148) also include non-physical entities:

> [. . .] resources such as time, weather and laws, which are often considered exogenous and uncontrollable by individuals and organizations, are often integrated – if not relied on – in the value creation process by all service systems.

The concept of resource heterogeneity in ARA thus is a first step toward the notion that resources become. In the case of resource heterogeneity, "resources have no given features; these are the result of the interaction with other resources" (Harrison and Håkansson, 2006, p. 232). This concept reflects the idea of resources, but the features of resources also "become," as explained in the service-dominant logic, such that the resource itself is not a given. Nothing

is a resource in itself; rather, a resource "is a property of things – a property that is a result of human capability" (DeGregori, 1987, p. 1243). In this sense, a resource is a carrier of capabilities, enabling an intended activity only when used (Fischer *et al.*, 2010). It becomes a resource by being used for an intended activity. A production machine is a machine; it becomes a resource when used in a production process. Software is software; it becomes a resource when used. Furthermore, after having been used, the machine is no longer a resource. It is again a machine, and it can become a resource again only by being used. By recognizing that resources "become," this view inherently indicates that they also can disappear as resources (even if the entity they are remains). In this sense, being a resource is not a property of a thing, person, machine, money, institution, or concept. It is a functional relationship between the thing, person, machine, money, institution, or concept on the one hand and the intended activity being performed on the other hand. The property of being a resource comes and goes, depending on whether the thing, person, machine, money, institution, or concept is used. Things become resources if they are integrated through interaction (Ballantyne and Varey, 2006; Fyrberg and Jüriado, 2009), to perform a specific intended activity. When things, persons, machines, money, institutions, or concepts are integrated through interaction to perform an intended activity, they become resources.

Vargo and Lusch (2011, p. 184) also use the notion of "potential resources" to describe the becoming process:

> Resources are not: they become. The usefulness of any particular potential resource from one source is moderated by the availability of other potential resources from the other sources, the removal of resistances to resource utilization, and the beneficiary's ability to integrate them.

Thus, a car or a laptop becomes a resource as soon as it gets used and integrated. Before and after that usage or integration, it is a car or a laptop, which represents a "potential" resource (Vargo and Lusch, 2011). The integration process makes it a resource; only when it is integrated does it provide a service, by allowing the actor to do what she was unable to do without the car or laptop. In this sense, resources become resources, and they cease to be resources. To be a resource is a property of the specific entity, which comes and goes in parallel with the integration process. Therefore, roles can become resources (Akaka and Chandler, 2011), things and practices can become resources (Löbler, 2010), and networks themselves can become resources (Hakansson and Snehota, 1995). Endless "resource-creating power" exists (DeGregori, 1987), depending on what humans integrate into the resource integration processes and how. The form of the integration process reflects the functional relationship between the resources integrated and the intended activity performed:

P3. Everything and everyone can become a resource as soon it is integrated into a resource integration process.

P4. The property of being a resource comes and goes, connected to the integration process of resources.

In summary, operant and operand resources become, as they are integrated to perform an intended activity or operation. Usually, but not necessarily, actors are carriers of operant resources; however, they can also become operand resources.

Unfolding service-dominant networks

To apply the preceding propositions to the development of an SDN, I use a previously published case study, by Gummesson (2008). This case study integrates B2B, B2C, and C2C perspectives and also displays the dynamics and fugaciousness of a SDN initiated by a critical incident (Löbler, 2011b). From this case study, I can derive three main properties of SDN.

Gummesson (2008) used his case study to describe how "many-to-many" networks unfold and how resources get integrated by other resources. The case study also can demonstrate this process from a perspective based on resources and intended activities, such that it reveals the challenging properties of an SDN. To recognize how networks unfold in a specific context, it is important to become familiar with the situation from which the SDN emerges. Therefore, an abridged version of Gummesson's (2008, pp. 145-146) "freezer case" appears here:

> On a Friday night around 8:30, I went down to the basement to pick up food fromour big freezer. We do not go there daily as we have a smaller freezer in the kitchen. The thermometer showed minus 10 degrees Celsius whereas it should be minus 20. A crisis was in the making. What do you do? At least you need to get the freezer out of the house before its content starts to smell.

We could squeeze some of it into our kitchen freezer, but not much. We decided to solicit assistance from our neighbors, but their freezer was not so big. We phoned our daughter in the city and had to drive for 15 min to get rid of the rest.

There are now four families involved: me, my wife and our daughter, and three neighboring families with seven people, altogether ten people.

On Saturday, my wife went on the internet to find the type of freezer we needed, a retailer and preferably somewhere to go and see it physically. The manufacturer, Electrolux, despite having their world headquarters in our city Stockholm and being market leaders, did not have a showroom. After searching for models through internet pictures and specifications, comparing prices and what was included – transport, installation, removal and scrapping of the old freezer – we chose a retailer. "We deliver on Thursdays," they said. "Electrolux delivers to us on Wednesdays."

On Wednesday the retailer phoned and said that Electrolux could not deliver this week so it would have to wait until Thursday next week. The delivery time is now doubled to two weeks. New contact with the neighbors and our daughter.

The transport firm arrived on Thursday and became the third member of our B2C network. They carried the old freezer from the basement and brought in the new one. It was heavy work going downstairs and through narrow doorways. When they unwrapped the new freezer we found three big holes in its front. They had to wrap it again. "we will be back next Thursday," they said. New contact with our C2C network.

Next Thursday the transport firm came again and finally plugged it in. Three weeks had passed.

Considering this case from a resource integrating perspective, it is possible to identify several entities that became resources in this specific context (Figure 1). In chronological order, readers encounter:

- The thermometer, which provides information about the temperature of the freezer and which initiates the subsequent processes.
- The kitchen freezer, providing a frozen space.
- The neighbors and daughter, who provide frozen spaces in their freezers. These actors become resources in this case because of the relationship Mr and Mrs Gummesson have with them.
- Therefore, the relationship among the human actors also becomes a resource.
- The telephone, which provides the connection to their daughter (later, the phone also provides a connection to the retailer).
- The car that provides mobility (transportation), enabling Mr Gummesson to bring the food to his daughter quickly enough.
- Streets, which provide a smooth surface on which to drive and enable an easy ride, compared with riding over a natural landscape.
- Traffic laws and lights, providing coordination support for driving (Löbler, 2010).

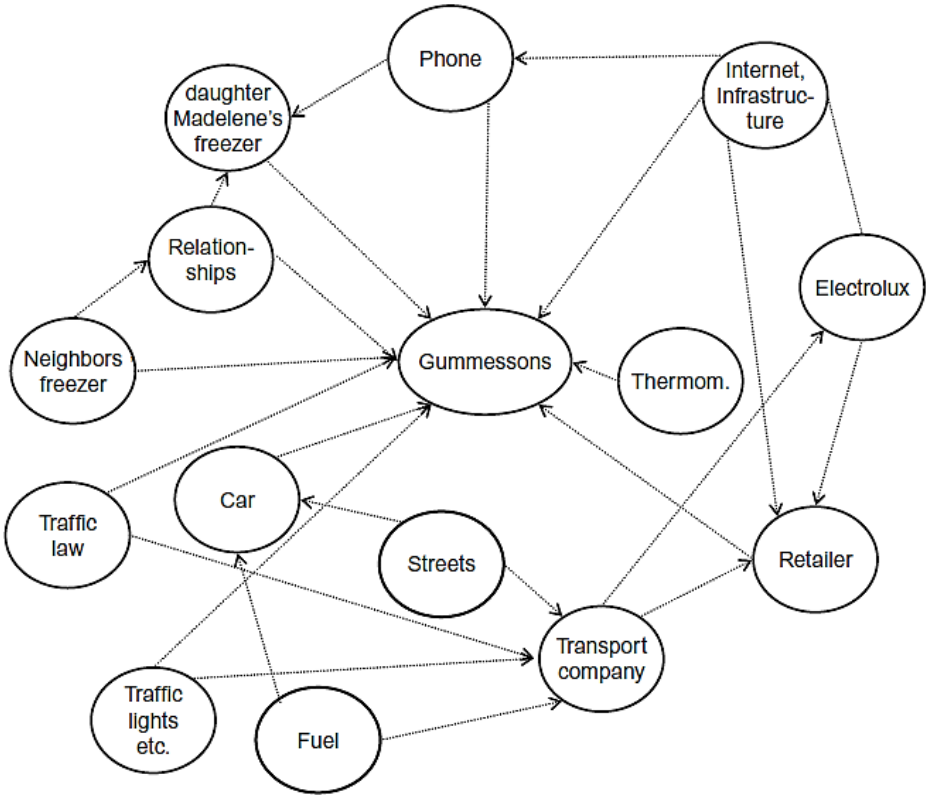

Figure 1.
The service-dominant network in the freezer case

- Fuel that provides a "service" for the car, enabling Mr Gummesson to drive the car.
- The internet, which provides information about new freezers.
- A retailer that enables the Gummessons to choose a freezer and provides information about delivery and organizing delivery.
- The transportation company provides delivery, enabling the physical movement of the freezer from Electrolux to the Gummesson's home.
- Electrolux provides the freezer.
- Through their work of the retailer and the transportation company, the old and new freezers get exchanged, such that it becomes a resource. That is, the exchange of the freezer, as a resource, is itself a service that integrates other resources to enable the exchange of potential resources.
- Finally, the Gummessons themselves manage the whole process.

In the center of Figure 1, the Gummessons are the main actors. Around them, the SDN that unfolds is very specific to the freezer case. The three neighbors (or more precisely, their three freezers) appear as a single entity simply for clarity in this graphic. All entities become resources as soon as they are integrated to perform specific activities and create value for the Gummessons. Even the Gummessons become operant resources that manage the entire process. As the arrows indicate, as soon as entities are integrated, they become resources. The integration process converts what is needed into a resource; the car is a car until it becomes a resource because it is being used. Before and after that usage, it is a car and a potential resource (Vargo and Lusch, 2011). The integration process makes it a resource only when it gets integrated to provide a service, namely, allowing Mr Gummesson, who becomes an operant resource in this case, to do what he would be unable to do without the car. Resources also become and disappear. This network emerges as resources became, through integration, and their integration occurs to perform an intended activity, namely, keeping frozen food cold. To ensure this particular intended activity could take place, other activities became necessary, all of which

also can be described as integrated resources (including the activity of keeping the food cold). The SDN that unfolds as potential resources are integrated and become resources integrates these resources to perform multiple, particular activities. Various kinds of services perform one or more intended activities; as soon as this intended activity is performed through the integration of resources, a SDN emerges (these SDNs can involve other networks, such as B2B, B2C, or C2C networks, as resources or contexts). From this case review, I suggest the following definition of a SDN:

> *P5*. A SDN unfolds when potential resources are integrated to perform or prepare one or more intended activities.

The nodes in the SDN are the resources (operant and operand), and the edges are resource integration.

As described in this case and the definition, exchanging potential resources (entities that can become a resource) is a service in itself, performed by integrating resources. Consider the exchange of the freezer: it is accompanied by several exchanges, including of the freezer, of the invoice, of money, and of information. All these exchanges are services and demand resource integration to be performed.

The network unfolding process, and with it the "becoming" of resources, was initiated by a thermometer that indicated an improper temperature. This event also could have initiated a very different network. For example, if the wrong temperature signal had been sent directly to Electrolux, it might have phoned the Gummessons and asked how it could help. If the event went unnoticed, the Gummessons would have faced an SDN associated with disposing of spoiled food.

Properties of service-dominant networks

A network perspective looks at reality from a different point of view, such that "the appeal of network analysis lies in its focus on relational systems as opposed to individual actors" (Galaskiewicz, 1996, p. 20). The network is an entity, not just the sum of the actors. In turn, I consider three properties of a SDN that may not be obvious or apparent from the summary perspective of actors.

Resource-to-resource

The SDN perspective would view Gummesson's original network, which combined C2C with B2C/C2B networks (Gummesson, 2008), differently. The SDN does not simply connect or "integrate" people and organizations, as social or business networks might. Instead, the network entails resources that become resources as they are integrated to perform an intended activity. This view does not say that people or their relationships are important. Neither social nor business networks are unimportant, because they can be critical potential resources. A SDN thus can comprise social or economic networks or parts of them. In an SDN though, the nodes are resources (as soon as they become resources), and the edges are resource integrations, which do not represent exchanges of either resources or services. The very exchange of resources is a service integrating other resources or services. If, as in the freezer case, a transport company transports the new freezer to the customer, the transport is a service that enables the freezer exchange, as a new resource for the Gummessons. For the provision of that service, the transportation company integrates other resources, such as a van, streets, and driver, which prompts another SDN. Therefore, the edges of the SDN represent the integration of resources, rather than the exchange of resources or the exchange of services. If the resources to be integrated are not available, a service must be established to make them available, and that

service includes an exchange of resources and other activities (i.e. services). In the proposed SDN, the service includes both nodes and edges, that is, the resources and their integration:

P6. A SDN is built on resource-to-resource (R2R) relationships and may integrate B2C, C2C, B2B, or actor to actor (A2A) relationships as potential resources.

Intended activities and initiators of service-dominant networks

Depending on the view on resource-integrating activities, each integration may be oriented toward one or more intended activities; in the freezer case, the primary intended activity is keeping food cold. If several people are involved in a SDN, they do not necessarily orient their resource-integrating activities toward the same intended activities. For the Gummessons, the intended activity was to keep the food cold, but for the transport company, it may be safe and quick transport. Service quality depends on how these different activities align with one another, but it also is important to understand the primary intended activity in a SDN. The service-dominant logic states that a service is the application of skills and knowledge (operant resources) for the benefit of another party (Vargo and Lusch, 2004, 2008). This application is performed through an activity that is the main intended activity (e.g. haircut), or it may result in other resources that enable the main intended activity.

In some cases, the initiator of an SDN is also the intended activity. The wish to produce a smartphone thus would initiate an SDN, with the main intended activities of phoning or using apps. However, the intended activities are not necessarily the initiators of SDN. Pain, accidents, and other negative events can initiate SDN but are not, of course, intended activities. To arrange potential resources to cope with these kinds of initiators, it is important to be aware of not just them but also the intended activities were made impossible by initiating forces, such as pain or accidents:

P7. Each SDN goes hand-in-hand with one or more intended activities.

Fugaciousness of service-dominant networks

Resources become resources, together or simultaneously with the emerging SDN; it is not possible to have one without the other (i.e. no SDN without resources, no resources without an SDN). The network defineswhich entities become resources, and the integrated resources define the network. As soon as integration (usage) occurs, the properties, capabilities, and so forth become resources, connected in a network of operant and operand resources. Unlike some other kinds of networks, the SDN of operant and operand resources disappears after resources have been used. Resources that become can also cease to be. That is, whatever can become a resource can cease to be a resource. Before and after becoming a resource, it exists as potential resources. Because (operant and operand) resources build the SDN, the network becomes and ceases with the resources too. In this sense, an SDN is fugacious and impermanent. This property makes SDNs very difficult to understand and capture; they emerge and disappear with resources, their integration, and the SDN. In this understanding then, service is a flow, not a fund or stock item. A car can be understood as a stock item. When used, it becomes a resource. After its use, it ceases to be a resource. The fugaciousness of resources, SDN, and service thus challenge service management and service research:

P8. SDNs are fugacious or impermanent.

Conclusions

The service-dominant logic, with its conceptualization of resources – they are not, they become – extends understanding of an SDN. In addition, "the whole idea of potential resources becoming realized is contextual and each context is unique" (Vargo and Lusch, 2011, p. 184). Therefore, each SDN is also unique, because it becomes only through resource integration, which also is contextual. The potential resources may be permanent or durable, but resources in the sense proposed in this article never are.

Previous discussions of networks in marketing and service literature (Achrol, 1997; Achrol and Kotler, 1999) have focused mainly on the interconnectedness of market actors (Baraldi and Strömsten, 2006; Harrison and Waluszewski, 2008; Ingemansson and Waluszewski, 2008) and service actors (Gummesson, 2007, 2008, 2010) or actors in general (Stern, 1996; Vargo and Lusch, 2011). All these networks describe collections of actors (Stern, 1996), whereas SDNs are collections of resources that become as they are integrated. In SDNs, actors and network of actors may be a part as soon as they become resources because they have been integrated. Therefore, they are SDN, not service networks. When service is the dominant activity, other networks of actors can become resources in an SDN.

In networks of actors, as usually laid out, all actors exist whether they are integrated in a network or not. In SDN, resources are not (do not exist as resources) if they are not integrated in a SDN. Instead, potential resources become resources only if integrated in a SDN.

In an SDN, service (i.e. resource integration) is the activity that keeps the network together, and everything and everyone can become a resource during the integration process. After the integration process, the SDN disappears as a SDN (integrating resources), though not necessarily as a network of actors (collection of actors). That is, the network-defining activity holds the SDN together.

Research implications

The freezer case, as discussed more extensively by Gummesson (2008), shows how an SDN unfolds contextually. Specific activities emerge from an initiator. Understanding and analyzing the initiators of SDNs is important, because initiators often are not the intended activity but rather the opposite. A critical incident analysis (Bejou *et al*., 1996; Edvardsson, 1992; Flanagan, 1954; Gremler, 2004) would suggest that any "critical incident" is something that cannot be avoided, such that a potential resource could be set up to deal with the critical incident smoothly and as soon as it happens. The analysis in the present article suggests instead that critical incidents represent opportunities, if they are the initiators of an SDN, to foster service innovations.

The different intended (and perhaps also unintended) activities in an SDN that integrates resources are important sources of information for understanding the SDN. Action research (Burns, 2007; Greenwood and Levin, 1998; Gummesson, 2008; Reason and Bradbury, 2007) offers a way of describing and analyzing SDN, as well as focusing on a deeper understanding of the activities involved. It appears that new methods must be created to understand more clearly the intended, mainly intended, and unintended activities in an SDN. Research on practices (Hagberg and Kjellberg, 2010; Löbler, 2010; Reckwitz, 2002; Schatzki, 1996) that enable and limit new forms of activities in SDNs offers a promising direction for further research.

Managerial implications

If SDN are understood in this way, then intended, mainly intended, and unintended activities come to the forefront as important managerial phenomena. They raise awareness of activities that may have been underestimated and that offer a potential for a better understanding of a

service. As the former CEO of Porsche, Wendelin Wiedeking, has said: “nobody needs a Porsche, but everybody wants to have one.” From the perspective of an SDN, a Porsche thus becomes a much desired resource for many intended and unintended activities: driving fast, driving safely, driving sportily, looking impressive, looking rich, feeling amazing, feeling sexy, and so on. Potential resources thus can be designed to suit both intended and perhaps unintended activities. Furthermore, considering the many initiators of SDN that are not intended activities, this study suggests that critical incidents may cause complaints in business, but they also provide opportunities to establish new SDNs.

To understand an SDN, it is necessary to understand the intended activities for its unfolding. Which intended activity is the network designed to perform, and who needs or wants that activity? Observing and analyzing the intended activities is key. Is the intended network activity supporting other activities? Is it substituting or replacing other activities, or is it even enabling activities that otherwise would not be possible? People do not want simply to hand over all meaning-creation activities to service providers, because such activities give meaning to people. Analyzing practices again could provide insights into meaning-making activities (Hagberg and Kjellberg, 2010; Löbler, 2010; Reckwitz, 2002; Schatzki, 1996). In particular, IT services should account for the practices they are intended to support, substitute for, or enable.

Limitations

This article tries to understand SDN from the point of view of the service-dominant logic and the actors-resources-activities model. As proposed, an SDN includes other kinds of networks if those networks become resources. An SDN may connect B2C or B2B (Gummesson and Polese, 2009) or A2A, but more generally, it connects R2R, that is, resources to resources. It is not limited to people and/or organizations. A person, as a carrier of operant resources, is part of an SDN but can simultaneously be a part of a social network as a human being.

This article identifies three important characteristics of SDN. Further research can confirm whether other characteristics exist and what form they take. This article does not address the phenomenon of value co-creation, as proposed by the service-dominant logic, nor has it connected value co-creation to SDNs. Rather, the service-dominant philosophy proposes that value is contextual, according the situation in which the SDN unfolds. I argue that value emerges when people experience their activities (in the broader sense, encompassing work, self-maintenance, play, recreation, and so forth). Life cannot stand still; humans are perpetually involved in some activities. Supporting life by supporting people’s activities represents the perspective of an SDN.

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Further reading

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